

EXHIBIT D

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12 *Entropic Communications, LLC*

13 **UNITED STATES DISTRICT COURT**
14 **CENTRAL DISTRICT OF CALIFORNIA**

15 ENTROPIC COMMUNICATIONS, LLC,

16 Plaintiff,

17 v.

18 COMCAST CORPORATION; COMCAST
19 CABLE COMMUNICATIONS, LLC;
20 AND COMCAST CABLE
21 COMMUNICATIONS MANAGEMENT,
22 LLC,

23 Defendants.

Case No. 2:23-cv-1050-JWH-KES

**SECOND AMENDED
COMPLAINT FOR PATENT
INFRINGEMENT**

DEMAND FOR JURY TRIAL

1 Plaintiff, Entropic Communications, LLC (“Entropic”), files this complaint for
2 patent infringement against Comcast Corporation (“Comcast Corp.”); Comcast Cable
3 Communications, LLC (“Comcast Communications”); and Comcast Cable
4 Communications Management, LLC (“Comcast Management”) (collectively
5 “Comcast”) and in support thereof alleges as follows:

6 1. This is a civil action arising under the patent laws of the United States,
7 35 U.S.C. § 1 *et seq.*, including specifically 35 U.S.C. § 271, based on Comcast’s
8 infringement of U.S. Patent Nos. 8,223,775 (the “775 Patent”), 8,284,690 (the
9 “690 Patent”), 8,792,008 (the “008 Patent”), 9,210,362 (the “362 Patent”), 9,825,826
10 (the “826 Patent”), 10,135,682 (the “682 Patent”), 11,381,866 (the “866 Patent”),
11 11,399,206 (the “206 Patent”), 11,785,275 (the “275 Patent”), and 9,866,438 (the
12 “438 Patent”) (collectively, the “Patents-in-Suit”).

13 **THE PARTIES**

14 2. Entropic is a Delaware limited liability company with an office at
15 7150 Preston Road, Suite 300, Plano, Texas 75024.

16 3. Entropic is the owner by assignment to all right, title, and interest to the
17 Patents-in-Suit. Entropic is the successor-in-interest of the Patents-in-Suit.

18 4. Upon information and belief, Comcast Corp. is a corporation organized
19 and existing under the laws of Pennsylvania, with a principal place of business at
20 1701 JFK Boulevard, Philadelphia, Pennsylvania 19103.

21 5. Comcast Corp. has, as its registered agent in California, CT Corporation
22 System, 330 N. Brand Blvd., Suite 700, Glendale, California 91203.

23 6. Comcast Corp., along with the other defendants, develops, markets, sells,
24 offers for sale and/or provides “Comcast” and “Xfinity” branded cable television
25 services and equipment to customers.

26 7. Comcast Communications is a limited liability company organized and
27 existing under the laws of Delaware, with a principal place of business at 1701 JFK
28

1 Boulevard, Philadelphia, Pennsylvania 19103. Upon information and belief, Comcast
2 Communications is a subsidiary of Comcast Corp.

3 8. Comcast Communications has, as its registered agent in California,
4 CT Corporation System, 330 N. Brand Blvd., Suite 700, Glendale, California 91203.

5 9. Comcast Communications, along with the other defendants, develops,
6 markets, sells, offers for sale and/or provides “Comcast” and “Xfinity” branded cable
7 television services and equipment to customers.

8 10. Comcast Management is a limited liability company organized and
9 existing under the laws of Delaware, with a principal place of business at 1701 JFK
10 Boulevard, Philadelphia, Pennsylvania 19103. Upon information and belief, Comcast
11 Management is a subsidiary of Comcast Corp.

12 11. Comcast Management has, as its registered agent in California, CT
13 Corporation System, 330 N. Brand Blvd., Suite 700, Glendale, California 91203.

14 12. Comcast Management, along with the other defendants, develops, markets,
15 sells, offers for sale and/or provides “Comcast” and “Xfinity” branded cable television
16 services and equipment to customers.

17 13. Comcast Corp. and/or Comcast Communications owns or leases, and
18 maintains and operates, several stores in this district by and through subsidiary limited
19 liability companies that they own, manage, and control, including Comcast of Santa
20 Maria, LLC and Comcast of Lompoc LLC. Upon information and belief, Comcast Corp.
21 and/or Comcast Communications (and/or other personnel employed by them)
22 negotiates and signs agreements on behalf of each of these entities.

23 14. Upon information and belief, Comcast Corp. and/or Comcast
24 Communications are the corporate managers of their subsidiary LLCs that own or lease
25 property in this district, and that own, store, sell, demonstrate, and lease equipment in
26 this district. Comcast Corp. and/or Comcast Communications have the right to exercise
27 near total control of each entity’s operations through its LLC agreements with each
28 entity.

1 15. In each of those stores, Comcast Corp. and/or Comcast Communications
2 owns and stores equipment such as cable modems and set top boxes (“STBs”), including
3 the Accused Cable Modem Products (defined below), Accused Set Top Products
4 (defined below) and demonstrates the Accused Services (defined below) provided via
5 those products to Comcast customers by and through subsidiary limited liability
6 companies that it manages and controls.

7 16. Upon information and belief, Comcast Corp. and/or Comcast
8 Communications employs personnel that install, service, repair and/or replace
9 equipment, as appropriate, in this district by and through subsidiary limited liability
10 companies that it manages and controls.

11 17. Upon information and belief, Comcast Corp. and/or Comcast
12 Communications have two wholly owned subsidiaries in this Judicial District of Central
13 California (“District”) that serve as their agents.

14 18. Comcast of Santa Maria, LLC (“Comcast Santa Maria”) is a limited
15 liability company organized and existing under the laws of Pennsylvania, with a
16 principal place of business at 1701 JFK Boulevard, Philadelphia, Pennsylvania 19103.
17 Comcast Santa Maria is a subsidiary of Comcast Corp.

18 19. Comcast Santa Maria, along with the other defendants, markets, sells,
19 offers for sale and/or provides “Comcast” and “Xfinity” branded cable television
20 services and equipment to customers.

21 20. Comcast of Lompoc, LLC (“Comcast Lompoc”) is a limited liability
22 company organized and existing under the laws of Pennsylvania, with a principal place
23 of business at 1701 JFK Boulevard, Philadelphia, Pennsylvania 19103. Comcast
24 Lompoc is a subsidiary of Comcast Corp.

25 21. Comcast Lompoc, along with the other defendants, markets, sells, offers
26 for sale and/or provides “Comcast” and “Xfinity” branded cable television services and
27 equipment to customers.

1 22. Upon information and belief, Comcast Communications, Comcast,
2 Management, Comcast Santa Maria, and Comcast Lompoc are the agents of Comcast
3 Corp. Upon information and belief, Comcast Corp. has complete and total control over
4 its agents Comcast Communications, Comcast Management, Comcast Santa Maria, and
5 Comcast Lompoc. On information and belief, Comcast Corp. shares management,
6 common ownership, advertising platforms, facilities, distribution chains and platforms,
7 stores, and accused product lines and products involving related technologies with its
8 agents, including at least Comcast Communications, Comcast Management, Comcast
9 Santa Maria, and Comcast Lompoc.

10 23. For example, Comcast Corp., Comcast Communications, Comcast
11 Management, Comcast Santa Maria, and Comcast Lompoc all have the same principal
12 place of business at 1701 JFK Boulevard, Philadelphia, Pennsylvania 19103.

13 24. The Comcast “Xfinity Residential Services Agreement” purports to bind
14 Comcast’s customers, including those customers in this District, to an agreement with
15 Comcast Communications for, *inter alia*, the Accused Services that Comcast’s
16 customers receive through the infringing use of the Accused Cable Modem Products
17 and the Accused Set Top Products.¹ This agreement further provides that an entity other
18 than Comcast Communications provides the services. Upon information and belief, the
19 entity that provides the services to Comcast’s customers and subscribers is Comcast
20 Management.

21 25. Comcast Management further shares a leadership team with Comcast
22 Corp.² For example, Brian Roberts is the Chairman and Chief Executive Officer of both
23
24

25 ¹ <https://www.xfinity.com/Corporate/Customers/Policies/SubscriberAgreement>.

26 ² Compare names found in Exhibit A to the attached [https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/communications-division/documents/video-](https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/communications-division/documents/video-franchising-and-broadband-analysis/video-franchising-main/applications-received-by-the-puc/2022/20220926-comcast-48a/comcast-48a-application.pdf)
27 [franchising-and-broadband-analysis/video-franchising-main/applications-received--](https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/communications-division/documents/video-franchising-and-broadband-analysis/video-franchising-main/applications-received-by-the-puc/2022/20220926-comcast-48a/comcast-48a-application.pdf)
28 [by-the-puc/2022/20220926-comcast-48a/comcast-48a-application.pdf](https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/communications-division/documents/video-franchising-and-broadband-analysis/video-franchising-main/applications-received-by-the-puc/2022/20220926-comcast-48a/comcast-48a-application.pdf) with the bios of

Comcast Management and Comcast Corp.; Daniel Murdock is Executive Vice President and Chief Accounting Officer of both Comcast Corp. and Comcast Management; Francis Buono is Executive Vice President of Legal Regulatory Affairs and Senior Deputy General Counsel of both Comcast Corp. and Comcast Management; and Karen Buchholz is Executive Vice President, Administration of both Comcast Corp. and Comcast Management.

PRE-SUIT DISCUSSIONS

26. Prior to filing this Complaint, Entropic sent a communication by physical means to Comcast on August 9, 2022, in an attempt to engage Comcast and/or its agents in good faith licensing discussions regarding Entropic's patent portfolio, including the Patents-in-Suit.³ Comcast replied to the communication on October 10, 2022, asking for additional information. On December 23, 2022, Entropic sent Comcast another communication regarding a separate license to Entropic's patents for the field of the standardized networking technology commonly called MoCA, and also seeking to discuss with Comcast a typical non-disclosure agreement in order to share such information.

ENTROPIC'S LEGACY AS A CABLE INNOVATOR

27. Entropic Communications Inc. ("Entropic Inc."), the predecessor-in-interest to Entropic as to the Patents-in-Suit, was founded in San Diego, California in 2001 by Dr. Anton Monk, Itzhak Gurantz, Ladd El Wardani and others. Entropic Inc. was exclusively responsible for the development of the initial versions of the Multimedia over Coax Alliance ("MoCA") standards, including MoCA 1.0, ratified in 2006 and MoCA 1.1, ratified in 2007, and was instrumental in the development of

the identified personnel at Comcast's corporate leadership website, <https://corporate.comcast.com/company/leadership>.

³ The '206 Patent was not included in the list of issued Entropic patents discussed in the communication sent on August 9, 2022.

1 MoCA 2.0, ratified in 2010. It also developed Direct Broadcast Satellite (“DBS”) 2 Outdoor Unit (“ODU”) single wire technology and System-on-Chip (“SoC”) solutions 3 for set-top boxes (STBs) in the home television and home video markets. Entropic was 4 widely known in the cable industry for these innovations and its foundational 5 development of MoCA.

6 28. Under the technical guidance of Dr. Monk, Entropic Inc. grew to be 7 publicly listed on the NASDAQ in 2007. After the public listing, the company acquired 8 RF Magic, Inc. in 2007, a company specializing in DBS ODU technology and related 9 hardware.

10 29. Additional growth between 2007 and 2015 bolstered the technical 11 expertise of Entropic Inc. with respect to signal acquisition, stacking, filtering, 12 processing, and distribution for STBs and cable modems.

13 30. For years, Entropic Inc. pioneered innovative networking technologies, as 14 well as television and internet-related technologies. These technologies simplified the 15 installation required to support wideband reception of multiple channels for 16 demodulation, improved home internet performance, and enabled more efficient and 17 responsive troubleshooting and upstream signal management for cable providers. These 18 innovations represented significant advances in the field, simplified the implementation 19 of those advances, and reduced expenses for providers and customers alike.

20 **MAXLINEAR’S TRANSFER OF PATENTS TO ENTROPIC**

21 31. In 2015, MaxLinear, Inc. and MaxLinear, LLC (collectively, 22 “MaxLinear”)—leading providers of radio-frequency, analog, digital, and mixed-signal 23 semiconductor solutions—acquired Entropic Inc., as well as the pioneering intellectual 24 property developed by Dr. Monk and his team.

25 32. Plaintiff Entropic was established in 2021 [REDACTED]

26 [REDACTED]

27 [REDACTED]

28 [REDACTED]

1 [REDACTED]
2 [REDACTED]
3 [REDACTED]
4 33. [REDACTED]
5 [REDACTED]
6 34. [REDACTED]
7 [REDACTED]
8 [REDACTED]
9 35. [REDACTED]
10 [REDACTED]
11 [REDACTED]
12 [REDACTED]
13 [REDACTED]
14 [REDACTED]
15 36. [REDACTED]
16 [REDACTED]
17 [REDACTED]

18 37. Entropic has the full right to pursue the patent infringement claims asserted
19 in this action against Comcast.

20 A. [REDACTED]
21 [REDACTED]
22 38. [REDACTED]
23 [REDACTED]
24 [REDACTED]
25 [REDACTED]
26 4 [REDACTED]
27 [REDACTED]
28 5 [REDACTED]

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1 [REDACTED]
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3 [REDACTED]
4 [REDACTED]
5 [REDACTED]
6 [REDACTED]

7 56. [REDACTED]
8 [REDACTED]
9 [REDACTED]

10 57. [REDACTED]
11 [REDACTED]
12 [REDACTED]
13 [REDACTED]
14 [REDACTED]

15 B. [REDACTED]
16 58. [REDACTED]
17 [REDACTED]
18 59. [REDACTED]
19 [REDACTED]

20 **C. Comcast Has, and Continues, to Willfully and Intentionally Infringe**
21 **Entropic's Patents**

22 60. The Patents-in-Suit are the result of years of research and development in
23 satellite and cable technology. These innovations are utilized by Comcast to provide
24 enhanced and expanded services to customers, which in turn has increased revenues for
25 Comcast while at the same time reducing costs.

26 61. Entropic filed a patent infringement suit against Charter Communications,
27 Inc. ("Charter") in the Eastern District of Texas, Case No. 2:22-CV-00125-JRG ("the
28 Charter Suit"), on April 27, 2022, asserting the '775 Patent, the '690 Patent, the '008

1 Patent, the '362 Patent, the '826 Patent, and the '682 Patent against Charter's provision
2 of cable television and internet services, cable modem products and STBs.

3 62. Upon information and belief, Comcast analyzed the claims in the Charter
4 Suit and the asserted patents.

5 63. Upon information and belief, Comcast analyzed its products' functionality
6 in light of the patents asserted in the Charter Suit.

7 64. Upon information and belief, Comcast monitored the ongoing prosecution
8 of the '362 Patent family, and therefore was aware the '866 Patent issued on July 5,
9 2022, and the '206 Patent issued on July 26, 2022.

10 65. Upon information and belief, Comcast analyzed its products' functionality
11 in light of the '866 Patent.

12 66. Upon information and belief, Comcast analyzed its products' functionality
13 in light of the '206 Patent.

14 67. Upon information and belief, Comcast requested indemnification from
15 Comcast's suppliers for each of the patents asserted against Charter, including the
16 MoCA related patents, prior to Entropic filing the current action.

17 68. Entropic filed a patent infringement suit against Dish Network
18 Corporation, DISH Network, LLC, and Dish Network Service, LLC (collectively,
19 "Dish") in the Eastern District of Texas, Case No. 2:22-CV-00076, on March 9, 2022,
20 asserting infringement of three Entropic patents, including the '008 Patent (the "Dish
21 Suit").

22 69. Entropic filed a patent infringement suit against DirecTV, LLC, AT&T,
23 Inc., AT&T Services, Inc., and AT&T Communications, LLC in the Eastern District
24 of Texas, Case No. 2:22-CV-00075 on March 9, 2022, asserting infringement of three
25 Entropic patents, including the '008 Patent (the "DirecTV Suit").

26 70. Upon information and belief, Comcast discussed the Charter Suit, Dish
27 Suit, and DirecTV Suit with RPX Corporation ("RPX"). Either before or shortly after
28

1 its discussions with RPX, Comcast substantively reviewed and analyzed the patents
2 asserted in the Charter Suit, Dish Suit, and DirecTV Suit.

3 71. Upon information and belief, Comcast subsequently suggested that RPX
4 reach out to Entropic to try to resolve the matters.

5 72. Comcast also attached to its own motion to dismiss [REDACTED]
6 [REDACTED]
7 [REDACTED] See Dkt. No.
8 39-1, Ex. A. [REDACTED]
9 [REDACTED]
10 [REDACTED]

11 73. Comcast also willfully infringed two other MaxLinear patents no later than
12 March 20, 2019. Specifically, U.S. Patent No. 10,582,515 assigned to and prosecuted
13 by Comcast cites to two patents assigned to MaxLinear, U.S. Patent Nos. 9,178,765 and
14 9,419,858. These two MaxLinear patents were cited by the examiner in a non-final
15 rejection on March 20, 2019. On information and belief, Comcast infringes at least
16 claim 1 of both the '765 and '858 patents. On information and belief, no later than that
17 date, Comcast substantively reviewed and analyzed the '765 and '858 patents. On
18 information and belief, Comcast has willfully infringed the '765 and '858 patents
19 beginning no later than March 20, 2019.

20 **1. Comcast Willfully Infringed, and Continues to Infringe, Entropic's**
21 **MoCA Patents**

22 74. Comcast invested in Entropic once in 2003, and again in 2006.

23 75. Upon information and belief, Comcast substantively reviewed and
24 analyzed Entropic's patents and patent applications related to the Entropic's MoCA
25 standard patents as part of its due diligence prior to investing in Entropic.

26 76. Upon information and belief, the patents and patent applications that
27 Comcast analyzed prior to investing in Entropic include at least the following patents:
28 U.S. Patent No. 7,295,518 (the "'518 Patent"), duly issued on November 13, 2007 from

1 an application filed December 18, 2002, an application filed August 19, 2002 and, *inter*
2 *alia*, a provisional application filed August 30, 2001; U.S. Patent No. 7,594,249, duly
3 issued on September 22, 2009 from an application filed July 21, 2001, and a provisional
4 application filed May 4, 2001; U.S. Patent No. 7,889,759 (the “759 Patent”), duly
5 issued on February 15, 2011 from an application filed July 12, 2004, an application filed
6 August 29, 2002, and, *inter alia* a provisional application filed August 30, 2001; U.S.
7 Patent No. 8,085,802, duly issued on December 27, 2011 from an application filed
8 December 2, 2005, and a provisional application filed December 2, 2004; U.S. Patent
9 No. 8,631,450, duly issued on January 14, 2014, from an application filed September
10 19, 2005 and, *inter alia*, a provisional application filed December 2, 2004; U.S. Patent
11 No. 8,621,539, duly issued on December 31, 2013 from an application filed September
12 29, 2005 and, *inter alia*, a provisional application filed December 2, 2004; U.S. Patent
13 No. 10,257,566, duly issued on April 9, 2019 from an application filed February 7,
14 2017, an application filed September 19, 2005, and *inter alia*, a provisional application
15 filed December 2, 2004 (collectively, the “Pre-Investment MoCA Patents”). On
16 information and belief, Comcast knew, based on its own analysis and also potentially
17 statements from Entropic itself, that these patents were standard-essential to MoCA,
18 such that practicing the MoCA standard would infringe these patents.

19 77. Upon information and belief, no later than the day prior to its latest
20 investment in Entropic in 2006, Comcast knew or had every reason to know that
21 Entropic owned the Pre-Investment MoCA Patents related to the MoCA technology
22 such that deployment of MoCA standard-compliant devices would infringe patents
23 owned by Entropic.

24 78. Upon information and belief, no later than the day prior to its latest
25 investment in Entropic in 2006, any reasonable commercial party in Comcast’s position,
26 with Comcast’s knowledge, would know that deployment of MoCA standard-compliant
27 devices would infringe on the Pre-Investment MoCA Patents owned by Entropic. On
28 information and belief, Comcast continued to monitor and analyze Entropic’s MoCA-

1 related patents and was aware of later-filed patents that are standard-essential to MoCA
2 simply due to the importance of MoCA to Comcast's business and Comcast's later
3 involvement as a board member of MoCA.

4 79. No later than 2010 and continuing to the present, Comcast has used
5 products that provide signals, programming and content utilizing a data connection
6 carried over a coaxial cable network in accordance with the MoCA standards, including
7 at least the Arris DCX3200, DCX3400, DCX3500, XG1-A, XG1v3, XG1v4, XG2v2,
8 Arris MR150CNM, Pace PR150BNM, Pace PX032ANI, Pace PXD01ANI, Samsung
9 SR150BNM, and similarly operating devices. Because Comcast was already aware of
10 Entropic's Pre-Investment MoCA patents and knew that those patents were standard-
11 essential, Comcast knew that its use of these devices would directly infringe the Pre-
12 Investment MoCA patents. Despite this knowledge, Comcast willfully infringed the
13 Pre-Investment Patents beginning no later than 2010.

14 80. Upon information and belief, Comcast was involved with and/or a member
15 of MoCA from the earliest days of MoCA, through at least August 2019. Indeed,
16 Comcast was a member of the MoCA board of directors.⁶

17 81. Entropic filed a patent infringement suit against ViXS Systems, Inc. and
18 ViXS USA, Inc. in the Southern District of California, Case No. 13-CV-1102-
19 WQHBGS ("the ViXS Suit"), on May 8, 2013, asserting infringement of the '759 Patent
20 and the '518 Patent. Both patents are essential to the standards developed and
21 promulgated by MoCA.

22 82. Upon information and belief, as a member of MoCA, Comcast analyzed
23 the claims in the ViXS Suit and the asserted patents.

24 83. Upon information and belief, Comcast analyzed its products' functionality
25 in light of the patents asserted in the ViXS Suit.

26
27
28 ⁶ See <https://mocalliance.org/about/faqs.php>.

1 84. Because Comcast already was using and deploying devices practicing the
2 MoCA standards (and continued to do so), Comcast willfully infringed the '759 and
3 '518 Patents no later than May 8, 2013, after substantively analyzing the complaint and
4 asserted patents from the ViXS suit.

5 85. As a member of MoCA, Comcast was well aware that Entropic, the owner
6 of the MoCA Patents in the ViXS Suit, was the leading contributor of technology to the
7 standards promulgated by MoCA, which are implicated by the claims of patent
8 infringement in the ViXS Suit.

9 86. Upon information and belief, Comcast therefore knew that MaxLinear and
10 Entropic Communications Inc. were significant players in MoCA.

11 87. Upon information and belief, Comcast knew that MoCA had tremendous
12 success, given its public success through Verizon Wireless's deployment of Fios.

13 88. Upon information and belief, Comcast knew that MaxLinear, Inc. was a
14 member of MoCA since at least 2011.

15 89. Comcast and MaxLinear, Inc. were both board members of MoCA from at
16 least 2015 through August 2019. By virtue of Comcast's participation in MoCA and its
17 ongoing, extensive use of MoCA standards, on information and belief, Comcast
18 monitored the publication and issuance of patents that would be standard-essential,
19 including MaxLinear and Entropic Communications Inc. patents. Because Comcast was
20 using devices that practiced the MoCA standards, Comcast willfully infringed each
21 MaxLinear and Entropic Communications Inc. patent that was standard-essential to
22 MoCA no later than shortly after the issuance of those patents. To the extent Comcast
23 did not engage in such review, it constitutes willful blindness to patent infringement
24 due to Comcast's knowledge of the foundational role and contributions of Entropic
25 Communications Inc. and MaxLinear to the MoCA standards.

1 90. Upon information and belief, Comcast was aware that Entropic
2 Communications Inc. owned patents that were and are essential to the practice of the
3 MoCA standard.⁷

4 91. At least as early as January 1, 2020, Comcast knew that MaxLinear owned
5 patents that were essential to practicing the technology embodied in one or more
6 standards promulgated by MoCA.

7 92. Comcast knew that MaxLinear acquired Entropic Communications Inc.
8 and its patents in 2015.⁸ Because Comcast already knew it was willfully infringing
9 patents owned by Entropic Communications Inc., Comcast therefore knew that it was
10 willfully infringing patents that were standard-essential to MoCA that now were owned
11 by MaxLinear no later than 2015.

12 93. No later than the day prior to [REDACTED]
13 [REDACTED]
14 [REDACTED]
15 [REDACTED]

16 94. No later than the day prior to [REDACTED]
17 [REDACTED]
18 [REDACTED]
19 [REDACTED]

20 Despite this knowledge, Comcast continued to use and deploy
21 devices practicing the MoCA standards and therefore willfully infringing patents owned
22 by MaxLinear, including at least

23 95. Accordingly, Comcast either knew about the MoCA Patents, or
24 alternatively engaged in a scheme to be willfully blind to the existence of such Patents,

25 ⁷

26 *See* [https://www.sec.gov/Archives/edgar/data/1227930/000122793015000006/entr201412](https://www.sec.gov/Archives/edgar/data/1227930/000122793015000006/entr2014123110-k.htm)
27 [3110-k.htm](https://www.sec.gov/Archives/edgar/data/1227930/000122793015000006/entr2014123110-k.htm).

28 ⁸ *See* https://investors.maxlinear.com/annual-reports?form_type=10-K&year=.

1 as set forth in the concurrently filed *Entropic Communications, Inc. v. Comcast*
2 *Corporation, et al.*, No. 2:23-cv-1048-JWH-KES (C.D. Cal. 2023). Comcast therefore
3 willfully infringed at least the Pre-Investment MoCA Patents, later-issued MoCA
4 patents, and the patents asserted in the ViXS case no later than the day prior to [REDACTED]

5 [REDACTED]

6 **2. Comcast Willfully Infringed, and Continues to Infringe, Entropic's**
7 **Patents-in-Suit**

8 96. Upon information and belief, Comcast substantively reviewed and
9 analyzed the '775 Patent-in-Suit, duly issued on July 17, 2012 from an application filed
10 September 30, 2003, as part of its due diligence prior to investing in Entropic in 2006.

11 97. Accordingly, upon information and belief, no later than the day prior to its
12 latest investment in Entropic in 2006, Comcast knew or had every reason to know that
13 Entropic owned the '775 Patent-in-Suit. Because Comcast knew of the '775 patent and
14 substantively reviewed its claims, Comcast began willfully infringing the '775 patent
15 no later than the dates it began offering the Accused Cable Modem products and
16 services, having knowledge that such use and deployment infringed the '775 patent.

17 98. Additionally, Comcast and MaxLinear, Inc. were engaged in a
18 longstanding commercial relationship for years.

19 99. [REDACTED]
20 [REDACTED]
21 [REDACTED]
22 [REDACTED]
23 [REDACTED]
24 [REDACTED]

25 100. [REDACTED]
26 [REDACTED]
27 [REDACTED] related

28

1 to non-standardized technologies deployed in the cable television and/or cable internet
2 businesses, technologies that Comcast uses and deploys.

3 101. As addressed above in paragraphs 67 through 74, Comcast has willfully
4 infringed at least the '362 patent, the '826 patent, and the '206 patent through its
5 knowledge gained from the Charter litigation, and was aware of (and substantively
6 analyzed its infringement of) the other Patents-in-Suit no later than the letter sent by
7 Entropic in August 2022.

8 102. Accordingly, Comcast either knew about the Patents-in-Suit, or
9 alternatively engaged in a scheme to be willfully blind to the existence of the Patents-
10 in-Suit.

11 103. Upon information and belief, in addition to the knowledge as set forth
12 above, one of the named inventors of the '008 Patent and '826 Patent, Patrick Tierney,
13 now works at Comcast. Accordingly, upon information and belief, Comcast knew of
14 the aforementioned Patents-in-Suit as early as the day Patrick Tierney was hired.

15 104. To date, Comcast has continued its wrongful and willful use of the Patents-
16 in-Suit, and has further continued its attempts to shield itself from liability for its
17 wrongful use thereof.

18 **JURISDICTION AND VENUE**

19 105. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331
20 and 1338(a) because the claims herein arise under the patent laws of the United States,
21 35 U.S.C. § 1 *et seq.*, including 35 U.S.C. § 271.

22 106. Venue in this District is proper pursuant to 28 U.S.C. § 1400(b), because
23 Comcast has regular and established places of business in this District. The defendants,
24 by themselves and/or through their agents, have committed acts of patent infringement
25 within the State of California and within this District by using, selling, offering for sale,
26 and/or leasing various telecommunication services products and services.

27 107. This Court has general personal jurisdiction over Comcast Corp. because
28 it conducts systematic and regular business within the State of California by, *inter alia*

1 providing cable television, internet, and phone services to businesses and residents
2 throughout the state. Comcast Corp.'s website states that, "Comcast is deeply
3 committed to California, where our nearly 5,000 employees serve more than 3 million
4 customers throughout the state."⁹

5 108. Upon information and belief, Comcast Management has a regular and
6 established place of business in the State of California including at least at 3055
7 Comcast Place, Livermore, California 94551.

8 109. The Court has personal jurisdiction over Comcast Corp., Comcast
9 Communications and Comcast Management because they have committed acts of
10 infringement within the State of California and within this District through, for example,
11 providing through their wholly owned subsidiaries, "Comcast" and "Xfinity" branded
12 products and services, including, Xfinity set top boxes ("STBs") and Xfinity digital
13 video, audio, and other content services to customers. Comcast provides cable television
14 and internet services ("Accused Services") via the lease, sale, and/or distribution of
15 cable modems and set top boxes both online and from Comcast stores in this District.
16 For example, Comcast has and continues to sell, lease, and/or distribute the Technicolor
17 TC8717 cable modem, Technicolor CGM4140 cable modem, Technicolor CGM4331
18 cable modem, and products that operate in a similar manner ("Accused Cable Modem
19 Products"), as well as the Arris AX013ANC STB, Arris AX013ANM STB, Arris
20 AX014ANC STB, Arris AX014ANM STB, Arris MX011ANC STB, Arris
21 MX011ANM STB, Pace PX001ANC STB, Pace PX013ANC STB, Pace PX013ANM
22 STB, Pace PX022ANC STB, Pace PX022ANM STB, Samsung SX022ANC STB,

23
24
25
26 ⁹ See

27 [https://california.comcast.com/about/#:%7E:text=Comcast%20is%20deeply%20com](https://california.comcast.com/about/#:%7E:text=Comcast%20is%20deeply%20com%20mitted%20to,smart%20home%E2%80%9D%20and%20phone%20service.)
28 [mitted%20to,smart%20home%E2%80%9D%20and%20phone%20service.](https://california.comcast.com/about/#:%7E:text=Comcast%20is%20deeply%20com%20mitted%20to,smart%20home%E2%80%9D%20and%20phone%20service.)

1 Samsung SX022ANM STB, and products that operate in a similar manner (“Accused
2 Set Top Products”).¹⁰

3 110. Upon information and belief, Comcast Corp., Comcast Communications,
4 and Comcast Management, by themselves and/or through their agents, offer various
5 telecommunication services throughout the United States. Comcast operates and
6 maintains a nationwide television and data network through which it sells, leases, and
7 offers for sale products and services, including the Accused Services, Accused Cable
8 Modem Products and Accused Set Top Products, to businesses, consumers, and
9 government agencies. Through its subsidiaries, Comcast Corp. offers to sell, sells, and
10 provides “Comcast” and “Xfinity” branded products and services, including cable
11 modems, set top boxes, and digital video, audio, and other content services to
12 customers. Subscribers to Comcast’s television services receive one or more receivers
13 and/or set-top boxes within this District. Subscribers to Comcast’s internet services
14 receive one or more cable modems within this District.

15 111. Upon information and belief, those services are provided through and
16 using the Accused Cable Modem Products and Accused Set Top Products.

17 112. Upon information and belief, Comcast Corp., Comcast Communications,
18 and Comcast Management, by themselves and/or through their agents, Comcast Santa
19 Maria and/or Comcast Lompoc, operate their businesses through *inter alia* offices,
20 warehouses, storefronts, and/or other operational locations within this District,
21 including, for example, at the Xfinity by Comcast stores located in this District at 685
22 East Betteravia Rd., Santa Maria, California 93454; and 1145 N. H Street, Suite B,
23

24 ¹⁰ Entropic provided its initial infringement contentions for the ’775, ’690, ’008, ’362,
25 ’826, ’682, ’866, and ’206 Patents on September 15, 2023. Entropic provided its initial
26 infringement contentions for the ’438 and ’275 Patents on November 3, 2023. Entropic
27 has revised this Second Amended Complaint to reflect the initial infringement
28 contentions, which include references to certain documents provided in discovery to
Comcast by Entropic.

1 Lompoc, California 93436. Comcast holds out these locations as its own through the
2 use of branding on the locations themselves.

3 113. Comcast lists these Xfinity by Comcast stores on its website and holds
4 them out as places where customers can obtain the Accused Services, Accused Cable
5 Modem Products and Accused Set Top Products.

6 114. Upon information and belief, one or more of the defendants owns and/or
7 leases the premises where these Xfinity by Comcast stores are located.

8 115. Upon information and belief, these Xfinity by Comcast stores are staffed
9 by persons directly employed by Comcast, many of whom live in this District.

10 116. Upon information and belief, one or more of the defendants has engaged
11 in regular and established business at physical places within this District such as at these
12 two Xfinity by Comcast stores.

13 117. Upon information and belief, Comcast employs and/or contracts with
14 persons and directs them to install, service, repair, and/or replace equipment, as
15 appropriate, in this District.

16 118. Upon information and belief, in each of these stores and/or service centers,
17 Comcast owns and stores equipment such as cable modems and set top boxes and
18 demonstrates services provided via those products to Comcast customers.

19 119. Comcast has adopted and ratified the Comcast and Xfinity-branded
20 locations identified in this District. The Comcast website advertises Comcast service
21 packages available from Comcast-authorized retailers in this District, and prospective
22 employees can find Comcast job listings in this District. Furthermore, the “corporate”
23 section of Comcast’s main website has a section containing “Special Information
24 Regarding California Residents’ Privacy Rights,” which demonstrates that Comcast is
25 purposefully holding itself out as providing products and services in California.

26 120. Upon information and belief, Comcast Corp., and/or Comcast
27 Communications, by themselves and/or through their agent, Comcast Management,
28 provides the Accused Services throughout the United States and in this District.

1 121. Upon information and belief, Comcast Corp. and/or Comcast
2 Management, by themselves, and/or through their agent, Comcast Communications,
3 sells, and offers for sale, and provides the Accused Services, the Accused Cable Modem
4 Products and the Accused Set Top Products throughout the United States and in this
5 District.

6 122. The Accused Services are available for subscription from various physical
7 stores, including those at 685 East Betteravia Rd., Santa Maria, California, 93454; and
8 1145 N. H Street, Suite B, Lompoc, California 93436.

9 123. The devices, including the Accused Cable Modem Products and the
10 Accused Set Top Products provided by Comcast to supply the Accused Services, are
11 provided to customers in this District and may be obtained by customers from physical
12 locations in this District, including those at 685 East Betteravia Rd., Santa Maria,
13 California, 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436.

14 124. Venue is further proper because Comcast has committed and continues to
15 commit acts of patent infringement in this District, including making, using, offering to
16 sell, and/or selling Accused Services, Accused Cable Modem Products and Accused Set
17 Top Products in this District, and/or importing the Accused Cable Modem Products and
18 Accused Set Top Products into, and thereafter providing Accused Services in, this
19 District, including by Internet sales and sales via retail and wholesale stores.
20 Furthermore, for example, Comcast deploys Accused Cable Modem Products and
21 Accused Set Top Products to many thousands of locations (e.g., customer premises) in
22 this District and subsequently, by means of those instrumentalities, uses the claimed
23 inventions at those locations in this District. Comcast infringes by inducing and
24 contributing to acts of patent infringement in this District and/or committing at least a
25 portion of any other infringement alleged herein in this District.

26 125. Comcast continues to conduct business in this District, including the acts
27 and activities described in the preceding paragraph.

COUNT I

(Infringement of the '775 Patent)

126. Entropic incorporates by reference each allegation of the paragraphs above as if fully set forth herein.

127. Entropic served infringement contentions which included a claim chart for the '775 Patent on September 15, 2023.

128. The '775 Patent duly issued on July 17, 2012 from an application filed September 30, 2003.

129. Entropic owns all substantial rights, interest, and title in and to the '775 Patent, including the sole and exclusive right to prosecute this action and enforce the '775 Patent against infringers and to collect damages for all relevant times.

130. The '775 Patent generally describes a partitioned cable modem that performs cable modem functions and data and home networking functions. Functionally partitioning a cable modem to perform cable modem functions and data and home networking functions enables a cable modem to incorporate a variety of enhanced functions. A true and accurate copy of the '775 Patent is attached hereto as Exhibit 1.

131. The '775 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

132. The '775 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

133. Comcast deploys one or more of the Accused Cable Modem Products in connection with operating and providing the Accused Services.

134. The Accused Cable Modem Products deployed by Comcast to customer premises remain the property of Comcast while deployed.

135. The Accused Cable Modem Products operate while deployed in a manner controlled and intended by Comcast.

136. As set forth in the attached nonlimiting claim chart (Exhibit 2), Comcast has directly infringed and is infringing at least Claims 18 and 19 of the '775 Patent by

1 using, importing, selling, and/or offering for sale the Accused Cable Modem Products
2 and/or the Accused Services.

3 137. Each aspect of the functioning of the Accused Cable Modem Products
4 described in the claim chart operates while deployed to customer premises in a manner
5 controlled and intended by Comcast.

6 138. Comcast provides no software, support, or other facility to customers to
7 modify any aspect of the functioning described in the claim chart of the Accused Cable
8 Modem Products while deployed to customer premises.

9 139. Comcast directly infringes at least Claims 18 and 19 of the '775 Patent by
10 using, importing, selling, and/or offering for sale the Accused Cable Modem Products
11 (for example, the Technicolor CGM4140 cable modem) and/or the Accused Services
12 (for example, utilizing cable modem functions).

13 140. The use of the Accused Cable Modem Products by Comcast to, for
14 example, demonstrate products in brick-and-mortar stores at 685 East Betteravia Rd.,
15 Santa Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc, California
16 93436, or to, for example, test those products, constitute acts of direct infringement of
17 at least Claims 18 and 19 of the '775 Patent.

18 141. Comcast has known of or has been willfully blind to the '775 Patent since
19 no later than the day before signing the [REDACTED]

20 142. Comcast has known of or has been willfully blind to the '775 Patent since
21 no later than the day before investing in Entropic in or about 2006.

22 143. Comcast has known of the '775 Patent no later than its receipt of Entropic's
23 communication sent to Comcast on August 9, 2022.

24 144. Comcast has been aware that it infringes the '775 Patent since well before,
25 and no later than the date of, its receipt of Entropic's August 9, 2022 communication,
26 attached as Exhibit 17. Since obtaining knowledge of the '775 Patent and its infringing
27 activities, Comcast has failed to cease its infringing activities.
28

1 145. Customers and subscribers of Comcast infringe at least Claims 18 and 19
2 of the '775 Patent by using the claimed system, at least during the use of the Accused
3 Cable Modem Products.

4 146. Comcast actively induces customers' direct infringement. For example,
5 Comcast actively induces infringement of at least Claims 18 and 19 of the '775 Patent
6 by providing the Accused Cable Modem Products to Comcast customers with specific
7 instructions and/or assistance (including installation) regarding the use of the Accused
8 Cable Modem Products to infringe the '775 Patent in accordance with the ordinary
9 course of operation through the provision of the Accused Services. For at least the
10 above-listed reasons, Comcast aids, instructs, supports, and otherwise acts with the
11 intent to cause an end user to use the Accused Cable Modem Products to infringe at
12 least Claims 18 and 19 of the '775 Patent.

13 147. Comcast contributes to the customers' direct infringement. Comcast
14 provides apparatuses, namely the Accused Cable Modem Products, that are used by
15 customers to directly infringe at least Claims 18 and 19 of the '775 Patent.

16 148. The Accused Cable Modem Products have no substantial noninfringing
17 uses. When an end user uses the Accused Cable Modem Products to receive the Accused
18 Services, the end user directly infringes at least Claims 18 and 19 of the '775 Patent.
19 The Accused Cable Modem Products are especially made or especially adapted for use
20 in an infringing manner.

21 149. Comcast's inducement of, and contribution to, the direct infringement of
22 at least Claims 18 and 19 of the '775 Patent is continuous and ongoing through acts
23 such as providing the Accused Cable Modem Products to Comcast customers, which
24 enables those customers to receive the Accused Services; Comcast's provision of the
25 Accused Services; and technical assistance provided by Comcast for equipment it
26 provides to its customers in support of the provision of the Accused Services.

150. Comcast's infringement of the '775 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under the patent.

151. Entropic has been damaged as a result of the infringing conduct alleged above. Comcast is liable to Entropic in an amount that compensates Entropic for Comcast's infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

152. Entropic is aware of no obligation to mark any instrumentality with the '775 Patent in accordance with 35 U.S.C. § 287.

COUNT II

(Infringement of the '690 Patent)

153. Entropic incorporates by reference each allegation above as if fully set forth herein.

154. Entropic served infringement contentions which included a claim chart for the '690 Patent on September 15, 2023.

155. The '690 Patent duly issued on October 9, 2012 from an application filed December 10, 2009, and, *inter alia* a provisional application filed May 19, 2009 and a provisional application filed December 15, 2008.

156. Entropic owns all substantial rights, interest, and title in and to the '690 Patent, including the sole and exclusive right to prosecute this action and enforce the '690 Patent against infringers and to collect damages for all relevant times.

157. The '690 Patent generally describes the process of generating probe transmissions in response to a request from a receiving node of a network, wherein the probe request specifies a plurality of parameters that specify content payload of the probe transmission, and a second node to receive the probe transmission, which enhances flexibility and therefore, improves the receiving node's ability to efficiently recognize the precise form of the transmitted probe. A true and accurate copy of the '690 Patent is attached hereto as Exhibit 3.

1 158. The '690 Patent is directed to patent-eligible subject matter pursuant to 35
2 U.S.C. § 101.

3 159. The '690 Patent is valid and enforceable, and presumed as such, pursuant
4 to 35 U.S.C. § 282.

5 160. Comcast deploys one or more of the Accused Cable Modem Products in
6 connection with operating and providing the Accused Services.

7 161. The Accused Cable Modem Products deployed by Comcast to customer
8 premises remain the property of Comcast while deployed.

9 162. The Accused Cable Modem Products operate while deployed in a manner
10 controlled and intended by Comcast.

11 163. As set forth in the attached nonlimiting claim chart (Exhibit 4), Comcast
12 has directly infringed and is infringing at least Claims 7 and 8 of the '690 Patent by
13 using, importing, selling, and/or offering for sale the Accused Cable Modem Products
14 and/or the Accused Services.

15 164. Each aspect of the functioning of the Accused Cable Modem Products
16 described in the claim chart operates while deployed to customer premises in a manner
17 controlled and intended by Comcast.

18 165. Comcast provides no software, support, or other facility to customers to
19 modify any aspect of the functioning described in the claim chart of the Accused Cable
20 Modem Products while deployed to customer premises.

21 166. Comcast directly infringes at least Claims 7 and 8 of the '690 Patent by
22 using, importing, selling, and/or offering for sale the Accused Cable Modem Products
23 (for example, the Technicolor CGM4140 cable modem) and/or the Accused Services
24 (for example, performing bidirectional communication with cable modems).

25 167. The use of the Accused Services by Comcast to, for example, demonstrate
26 products in brick-and-mortar stores at 685 East Betteravia Rd., Santa Maria, California,
27 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436, or to, for example,
28

1 test those products, constitute acts of direct infringement of at least Claims 7 and 8 of
2 the '690 Patent.

3 168. Comcast has known of or has been willfully blind to the '690 Patent no
4 later than the day before signing the [REDACTED]

5 169. Comcast has known of or has been willfully blind to the '690 Patent since
6 no later than the date of its receipt of Entropic's communication sent to Comcast on
7 August 9, 2022.

8 170. Comcast has been aware that it infringes the '690 Patent since well before,
9 and no later than the date of, Entropic's August 9, 2022 communication, attached as
10 Exhibit 17. Since obtaining knowledge of the '690 Patent and its infringing activities,
11 Comcast has failed to cease its infringing activities.

12 171. Customers and subscribers of Comcast infringe at least Claims 7 and 8 of
13 the '690 Patent by using the claimed method, at least during receipt of the Accused
14 Services utilizing, for example, the Accused Cable Modem Products.

15 172. Comcast actively induces customers' direct infringement. For example,
16 Comcast actively induces infringement of at least Claims 7 and 8 of the '690 Patent by
17 providing the Accused Cable Modem Products to Comcast customers with specific
18 instructions and/or assistance (including installation) regarding the use of the Accused
19 Cable Modem Products to infringe the '690 Patent in accordance with the ordinary
20 course of operation through the provision of the Accused Services. Comcast provides
21 the cable modem functions claimed by the '690 Patent via the Accused Services, which
22 enable and induce its customers to directly infringe the '690 Patent. For at least the
23 above-listed reasons, Comcast aids, instructs, supports, and otherwise acts with the
24 intent to cause an end user to use the Accused Cable Modem Products to infringe at
25 least Claims 7 and 8 of the '690 Patent.

26 173. Comcast contributes to the customers' direct infringement. Comcast
27 provides apparatuses, namely the Accused Cable Modem Products, that are used by
28 customers to directly infringe at least Claims 7 and 8 of the '690 Patent.

1 174. The Accused Cable Modem Products have no substantial noninfringing
2 uses. When an end user uses the Accused Cable Modem Products to receive the Accused
3 Services, the end user directly infringes at least Claims 7 and 8 of the '690 Patent. The
4 Accused Cable Modem Products are especially made or especially adapted for use in
5 an infringing manner.

6 175. Comcast's inducement of, and contribution to, the direct infringement of
7 at least Claims 7 and 8 of the '690 Patent is continuous and ongoing through acts such
8 as providing the Accused Cable Modem Products to Comcast customers, which enables
9 those customers to receive the Accused Services; Comcast's provision of the Accused
10 Services; and technical assistance provided by Comcast for equipment it provides to its
11 customers in support of the provision of the Accused Services.

12 176. Comcast's infringement of the '690 Patent is, has been, and continues to
13 be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights
14 under the patent.

15 177. Entropic has been damaged as a result of the infringing conduct alleged
16 above. Comcast is liable to Entropic in an amount that compensates Entropic for
17 Comcast's infringement, which by law cannot be less than a reasonable royalty, together
18 with interest and costs as fixed by this Court under 35 U.S.C. § 284.

19 178. No apparatus claims of the '690 Patent are presently asserted. Accordingly,
20 there is no duty to mark pursuant to 35 U.S.C. § 287.

21 **COUNT III**

22 **(Infringement of the '008 Patent)**

23 179. Entropic incorporates by reference each allegation of the paragraphs above
24 as if fully set forth herein.

25 180. Entropic served infringement contentions which included a claim chart for
26 the '008 Patent on September 15, 2023.

27 181. The '008 Patent duly issued on July 29, 2014 from an application filed
28 September 10, 2012, and, *inter alia* a provisional application filed September 8, 2011.

1 182. Entropic owns all substantial rights, interest, and title in and to the '008
2 Patent, including the sole and exclusive right to prosecute this action and enforce the
3 '008 Patent against infringers and to collect damages for all relevant times.

4 183. The '008 Patent generally describes a system that receives a signal having
5 a plurality of channels, digitizes the received signal, and reports certain signal
6 characteristics to the source of the received signal. A true and accurate copy of the '008
7 Patent is attached hereto as Exhibit 5.

8 184. The '008 Patent is directed to patent-eligible subject matter pursuant to 35
9 U.S.C. § 101.

10 185. The '008 Patent is valid and enforceable, and presumed as such, pursuant
11 to 35 U.S.C. § 282.

12 186. Comcast deploys one or more of the Accused Cable Modem Products and
13 Accused Set Top Products in connection with operating and providing the Accused
14 Services.

15 187. The Accused Cable Modem Products and Accused Set Top Products
16 deployed by Comcast to customer premises remain the property of Comcast while
17 deployed.

18 188. The Accused Cable Modem Products and Accused Set Top Products
19 operate while deployed in a manner controlled and intended by Comcast.

20 189. As set forth in the attached nonlimiting claim chart (Exhibit 6), Comcast
21 has directly infringed and is infringing at least Claims 1-6, 9, and 10 of the '008 Patent
22 by using, importing, selling, and/or offering for sale the Accused Cable Modem
23 Products and Accused Set Top Products and/or the Accused Services.

24 190. Each aspect of the functioning of the Accused Cable Modem Products and
25 Accused Set Top Products described in the claim chart operates while deployed to
26 customer premises in a manner controlled and intended by Comcast.

1 191. Comcast provides no software, support, or other facility to customers to
2 modify any aspect of the functioning described in the claim chart of the Accused Cable
3 Modem Products and Accused Set Top Products while deployed to customer premises.

4 192. Comcast directly infringes at least Claims 1-6, 9, and 10 of the '008 Patent
5 by using, importing, selling, and/or offering for sale the Accused Cable Modem
6 Products (for example, the Technicolor CGM4140 cable modem), Accused Set Top
7 Products (for example, the Arris AX013ANM STB) and/or the Accused Services (for
8 example, monitoring signals by the Accused Set Top Products).

9 193. The use of the Accused Cable Modem Products and Accused Set Top
10 Products by Comcast to, for example, demonstrate products in brick-and-mortar stores
11 at 685 East Betteravia Rd., Santa Maria, California, 93454; and 1145 N. H Street, Suite
12 B, Lompoc, California 93436, or to, for example, test those products, constitute acts of
13 direct infringement of at least Claims 1-6, 9, and 10 of the '008 Patent.

14 194. Comcast has known of or has been willfully blind to the '008 Patent no
15 later than the day before [REDACTED]

16 195. Comcast has known of or has been willfully blind to the '008 Patent since
17 before the August 9, 2022 communication from Entropic.

18 196. Comcast has been aware that it infringes the '008 Patent since well before,
19 and no later than the date of, Entropic's August 9, 2022 communication, attached as
20 Exhibit 17. Since obtaining knowledge of the '008 Patent and its infringing activities,
21 Comcast has failed to cease its infringing activities.

22 197. Customers and subscribers of Comcast infringe at least Claims 1-6, 9, and
23 10 of the '008 Patent by using the claimed system, at least during the use of the Accused
24 Cable Modem Products and Accused Set Top Products.

25 198. Comcast actively induces customers' direct infringement. For example,
26 Comcast actively induces infringement of at least Claims 1-6, 9, and 10 of the '008
27 Patent by providing the Accused Cable Modem Products and Accused Set Top Products
28 to Comcast customers with specific instructions and/or assistance (including

1 installation) regarding the use of the Accused Cable Modem Products and Accused Set
2 Top Products to infringe the '008 Patent in accordance with the ordinary course of
3 operation through the provision of the Accused Services. Comcast provides the full
4 band digital tuning and signal monitoring functions claimed by the '008 Patent via the
5 Accused Services, which enable and induce its customers to directly infringe the '008
6 Patent. For at least the above-listed reasons, Comcast aids, instructs, supports, and
7 otherwise acts with the intent to cause an end user to use the Accused Cable Modem
8 Products and Accused Set Top Products to infringe at least Claims 1-6, 9, and 10 of the
9 '008 Patent.

10 199. Comcast contributes to the customers' direct infringement. Comcast
11 provides apparatuses, namely the Accused Cable Modem Products and Accused Set
12 Top Products, that are used by customers to directly infringe at least Claims 1-6, 9, and
13 10 of the '008 Patent.

14 200. The Accused Cable Modem Products and Accused Set Top Products have
15 no substantial noninfringing uses. When an end user uses the Accused Cable Modem
16 Products and Accused Set Top Products to receive the Accused Services, the end user
17 directly infringes at least Claims 1-6, 9, and 10 of the '008 Patent. The Accused Cable
18 Modem Products and Accused Set Top Products are especially made or especially
19 adapted for use in an infringing manner.

20 201. Comcast's inducement of, and contribution to, the direct infringement of
21 at least Claims 1-6, 9, and 10 of the '008 Patent is continuous and ongoing through acts
22 such as providing the Accused Cable Modem Products and Accused Set Top Products
23 to Comcast customers, which enables those customers to receive the Accused Services;
24 Comcast's provision of the Accused Services; and technical assistance provided by
25 Comcast for equipment it provides to its customers in support of the provision of the
26 Accused Services.

202. Comcast's infringement of the '008 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under the patent.

203. Entropic has been damaged as a result of the infringing conduct alleged above. Comcast is liable to Entropic in an amount that compensates Entropic for Comcast's infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

204. Entropic is aware of no obligation to mark any instrumentality with the '008 Patent in accordance with 35 U.S.C. § 287.

COUNT IV

(Infringement of the '362 Patent)

205. Entropic incorporates by reference each allegation of the paragraphs above as if fully set forth herein.

206. Entropic served infringement contentions which included a claim chart for the '362 Patent on September 15, 2023.

207. The '362 Patent duly issued on December 8, 2015 from an application filed February 5, 2015, an application filed August 8, 2013, an application filed April 19, 2010, and, *inter alia* a provisional application filed April 17, 2009.

208. Entropic owns all substantial rights, interest, and title in and to the '362 Patent, including the sole and exclusive right to prosecute this action and enforce the '362 Patent against infringers and to collect damages for all relevant times.

209. The '362 Patent generally describes a wideband receiver system that down converts a plurality of frequencies including desired television channels and undesired television channels, digitizes frequencies, selects desired television channels from the frequencies, and outputs the selected television channels to a demodulator as a digital data stream. A true and accurate copy of the '362 Patent is attached hereto as Exhibit 7.

210. The '362 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

1 211. The '362 Patent is valid and enforceable, and presumed as such, pursuant
2 to 35 U.S.C. § 282.

3 212. Comcast deploys one or more of the Accused Set Top Products in
4 connection with operating and providing the Accused Services.

5 213. The Accused Set Top Products deployed by Comcast to customer premises
6 remain the property of Comcast while deployed.

7 214. The Accused Set Top Products operate while deployed in a manner
8 controlled and intended by Comcast.

9 215. As set forth in the attached nonlimiting claim chart (Exhibit 8), Comcast
10 has directly infringed and is infringing at least Claims 11 and 12 of the '362 Patent by
11 using, importing, selling, and/or offering for sale the Accused Set Top Products and/or
12 the Accused Services.

13 216. Each aspect of the functioning of the Accused Set Top Products described
14 in the claim chart operates while deployed to customer premises in a manner controlled
15 and intended by Comcast.

16 217. Comcast provides no software, support, or other facility to customers to
17 modify any aspect of the functioning described in the claim chart of the Accused Set
18 Top Products while deployed to customer premises.

19 218. Comcast directly infringes at least Claims 11 and 12 of the '362 Patent by
20 using, importing, selling, and/or offering for sale the Accused Set Top Products (for
21 example, the Arris AX013ANM STB) and/or the Accused Services (for example,
22 digitizing and selecting desired television channels provided by Comcast).

23 219. The use of the Accused Set Top Products by Comcast to, for example,
24 demonstrate products in brick-and-mortar stores at 685 East Betteravia Rd., Santa
25 Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436, or
26 to, for example, test those products, constitute acts of direct infringement of at least
27 Claims 11 and 12 of the '362 Patent.

1 220. Comcast has known of or has been willfully blind to the '362 Patent no
2 later than the day before [REDACTED]

3 221. Comcast has known of or has been willfully blind to the '362 Patent since
4 before the August 9, 2022 communication from Entropic.

5 222. Comcast has been aware that it infringes the '362 Patent since well before,
6 and no later than the date of, its receipt of Entropic's August 9, 2022 communication,
7 attached as Exhibit 17. Since obtaining knowledge of the '362 Patent and its infringing
8 activities, Comcast has failed to cease its infringing activities.

9 223. Customers and subscribers of Comcast infringe at least Claims 11 and 12
10 of the '362 Patent by using the claimed system, at least during the use of the Accused
11 Set Top Products.

12 224. Comcast actively induces customers' direct infringement. For example,
13 Comcast actively induces infringement of at least Claims 11 and 12 of the '362 Patent
14 by providing the Accused Set Top Products to Comcast customers with specific
15 instructions and/or assistance (including installation) regarding the use of the Accused
16 Set Top Products to infringe the '362 Patent in accordance with the ordinary course of
17 operation through the provision of the Accused Services. Comcast provides the
18 television channel digitization, selection, and output functions claimed by the '362
19 Patent via the Accused Services, which enable and induce its customers to directly
20 infringe the '362 Patent. For at least the above-listed reasons, Comcast aids, instructs,
21 supports, and otherwise acts with the intent to cause an end user to use the Accused Set
22 Top Products to infringe at least Claims 11 and 12 of the '362 Patent.

23 225. Comcast contributes to the customers' direct infringement. Comcast
24 provides apparatuses, namely the Accused Set Top Products, that are used by customers
25 to directly infringe at least Claims 11 and 12 of the '362 Patent.

26 226. The Accused Set Top Products have no substantial noninfringing uses.
27 When an end user uses the Accused Set Top Products to receive the Accused Services,
28 the end user directly infringes at least Claims 11 and 12 of the '362 Patent. The Accused

1 Set Top Products are especially made or especially adapted for use in an infringing
2 manner.

3 227. Comcast's inducement of, and contribution to, the direct infringement of
4 at least Claims 11 and 12 of the '362 Patent is continuous and ongoing through acts
5 such as providing the Accused Set Top Products to Comcast customers, which enables
6 those customers to receive the Accused Services; Comcast's provision of the Accused
7 Services; and technical assistance provided by Comcast for equipment it provides to its
8 customers in support of the provision of the Accused Services.

9 228. Comcast's infringement of the '362 Patent is, has been, and continues to
10 be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights
11 under the patent.

12 229. Entropic has been damaged as a result of the infringing conduct alleged
13 above. Comcast is liable to Entropic in an amount that compensates Entropic for
14 Comcast's infringement, which by law cannot be less than a reasonable royalty, together
15 with interest and costs as fixed by this Court under 35 U.S.C. § 284.

16 230. No apparatus claims of the '362 Patent are presently asserted. Accordingly,
17 there is no duty to mark pursuant to 35 U.S.C. § 287.

18 **COUNT V**

19 **(Infringement of the '826 Patent)**

20 231. Entropic incorporates by reference each allegation of the paragraphs above
21 as if fully set forth herein.

22 232. Entropic served infringement contentions which included a claim chart for
23 the '826 Patent on September 15, 2023.

24 233. The '826 Patent duly issued on November 21, 2017 from an application
25 filed November 23, 2015, an application filed July 28, 2014, an application filed
26 September 10, 2012, and, *inter alia* a provisional application filed September 8, 2011.

1 234. Entropic owns all substantial rights, interest, and title in and to the '826
2 Patent, including the sole and exclusive right to prosecute this action and enforce the
3 '826 Patent against infringers and to collect damages for all relevant times.

4 235. The '826 Patent generally describes a system that receives a signal having
5 a plurality of channels, digitizes the received signal, and reports certain signal
6 characteristics to the source of the received signal. A true and accurate copy of the '826
7 Patent is attached hereto as Exhibit 9.

8 236. The '826 Patent is directed to patent-eligible subject matter pursuant to 35
9 U.S.C. § 101.

10 237. The '826 Patent is valid and enforceable, and presumed as such, pursuant
11 to 35 U.S.C. § 282.

12 238. Comcast deploys one or more of the Accused Cable Modem Products and
13 Accused Set Top Products in connection with operating and providing the Accused
14 Services.

15 239. The Accused Cable Modem Products and Accused Set Top Products
16 deployed by Comcast to customer premises remain the property of Comcast while
17 deployed.

18 240. The Accused Cable Modem Products and Accused Set Top Products
19 operate while deployed in a manner controlled and intended by Comcast.

20 241. As set forth in the attached nonlimiting claim chart (Exhibit 10), Comcast
21 has directly infringed and is infringing at least Claims 1-4, 6, 8, and 9 of the '826 Patent
22 by using, importing, selling, and/or offering for sale the Accused Cable Modem
23 Products, Accused Set Top Products and/or the Accused Services.

24 242. Each aspect of the functioning of the Accused Cable Modem Products and
25 Accused Set Top Products described in the claim chart operates while deployed to
26 customer premises in a manner controlled and intended by Comcast.

1 243. Comcast provides no software, support, or other facility to customers to
2 modify any aspect of the functioning described in the claim chart of the Accused Cable
3 Modem Products and Accused Set Top Products while deployed to customer premises.

4 244. Comcast directly infringes at least Claims 1-4, 6, 8, and 9 of the '826 Patent
5 by using, importing, selling, and/or offering for sale the Accused Cable Modem
6 Products and Accused Set Top Products (for example, the Technicolor CGM4140 cable
7 modem) and/or the Accused Services (for example, monitoring signals by the Accused
8 Cable Modem Products and Accused Set Top Products).

9 245. The use of the Accused Cable Modem Products and Accused Set Top
10 Products by Comcast to, for example, demonstrate products in brick-and-mortar stores
11 at 685 East Betteravia Rd., Santa Maria, California, 93454; and 1145 N. H Street, Suite
12 B, Lompoc, California 93436, or to, for example, test those products, constitute acts of
13 direct infringement of at least Claims 1-4, 6, 8, and 9 of the '826 Patent.

14 246. Comcast has known of or has been willfully blind to the '826 Patent no
15 later than the day before [REDACTED]

16 247. Comcast has known of or has been willfully blind to the '826 Patent since
17 before the August 9, 2022 communication from Entropic.

18 248. Comcast has been aware that it infringes the '826 Patent since well before,
19 and no later than the date of, its receipt of Entropic's August 9, 2022 communication,
20 attached as Exhibit 17. Since obtaining knowledge of the '826 Patent and its infringing
21 activities, Comcast has failed to cease its infringing activities.

22 249. Customers and subscribers of Comcast infringe at least Claims 1-4, 6, 8,
23 and 9 of the '826 Patent by using the claimed system, at least during the use of the
24 Accused Cable Modem Products and Accused Set Top Products.

25 250. Comcast actively induces customers' direct infringement. For example,
26 Comcast actively induces infringement of at least Claims 1-4, 6, 8, and 9 of the '826
27 Patent by providing the Accused Cable Modem Products and Accused Set Top Products
28 to Comcast customers with specific instructions and/or assistance (including

1 installation) regarding the use of the Accused Cable Modem Products and Accused Set
2 Top Products to infringe the '826 Patent in accordance with the ordinary course of
3 operation through the provision of the Accused Services. Comcast provides the signal
4 monitoring claimed by the '826 Patent via the Accused Services, which enable and
5 induce its customers to directly infringe the '826 Patent. For at least the above-listed
6 reasons, Comcast aids, instructs, supports, and otherwise acts with the intent to cause
7 an end user to use the Accused Cable Modem Products and Accused Set Top Products
8 to infringe at least Claims 1-4, 6, 8, and 9 of the '826 Patent.

9 251. Comcast contributes to the customers' direct infringement. Comcast
10 provides apparatuses, namely the Accused Cable Modem Products and Accused Set
11 Top Products, that are used by customers to directly infringe at least Claims 1-4, 6, 8,
12 and 9 of the '826 Patent.

13 252. The Accused Cable Modem Products and Accused Set Top Products have
14 no substantial noninfringing uses. When an end user uses the Accused Set Top Products
15 to receive the Accused Services, the end user directly infringes at least Claims 1-4, 6,
16 8, and 9 of the '826 Patent. The Accused Cable Modem Products and Accused Set Top
17 Products are especially made or especially adapted for use in an infringing manner.

18 253. Comcast's inducement of, and contribution to, the direct infringement of
19 at least Claims 1-4, 6, 8, and 9 of the '826 Patent is continuous and ongoing through
20 acts such as providing the Accused Cable Modem Products and Accused Set Top
21 Products to Comcast customers, which enables those customers to receive the Accused
22 Services; Comcast's provision of the Accused Services; and technical assistance
23 provided by Comcast for equipment it provides to its customers in support of the
24 provision of the Accused Services.

25 254. Comcast's infringement of the '826 Patent is, has been, and continues to
26 be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights
27 under the patent.

255. Entropic has been damaged as a result of the infringing conduct alleged above. Comcast is liable to Entropic in an amount that compensates Entropic for Comcast's infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

256. No apparatus claims of the '826 Patent are presently asserted. Accordingly, there is no duty to mark pursuant to 35 U.S.C. § 287.

COUNT VI

(Infringement of the '682 Patent)

257. Entropic incorporates by reference each allegation of the paragraphs above as if fully set forth herein.

258. Entropic served infringement contentions which included a claim chart for the '682 Patent on September 15, 2023.

259. The '682 Patent duly issued on November 20, 2018 from an application filed January 9, 2018, an application filed February 16, 2017, an application filed August 4, 2016, an application filed July 23, 2013, and, *inter alia* a provisional application filed July 23, 2012.

260. Entropic owns all substantial rights, interest, and title in and to the '682 Patent, including the sole and exclusive right to prosecute this action and enforce the '682 Patent against infringers and to collect damages for all relevant times.

261. The '682 Patent generally describes a method performed by a cable modem termination system and/or converged cable access platform, the method including determining a corresponding signal-to-noise-ratio ("SNR") related metric, assigning cable modems to service groups based on a respective corresponding SNR-related metric, generating a composite SNR-related metric based on a worst-case SNR profile, selecting a physical layer communication parameter to be used for communicating with a service group based on a composite SNR-related metric, and communicating with cable modems in the service group using the selected physical layer communication parameter. A true and accurate copy of the '682 Patent is attached hereto as Exhibit 11.

1 262. The '682 Patent is directed to patent-eligible subject matter pursuant to 35
2 U.S.C. § 101.

3 263. The '682 Patent is valid and enforceable, and presumed as such, pursuant
4 to 35 U.S.C. § 282.

5 264. Comcast deploys one or more of the Accused Cable Modem Products in
6 connection with operating and providing the Accused Services.

7 265. The Accused Cable Modem Products deployed by Comcast to customer
8 premises remain the property of Comcast while deployed.

9 266. The Accused Cable Modem Products operate while deployed in a manner
10 controlled and intended by Comcast.

11 267. As set forth in the attached nonlimiting claim chart (Exhibit 12), Comcast
12 has directly infringed and is infringing at least Claims 1-5 and 9 of the '682 Patent by
13 using, importing, selling, and/or offering for sale the Accused Services.

14 268. Each aspect of the functioning of the Accused Cable Modem Products
15 described in the claim chart operates while deployed to customer premises in a manner
16 controlled and intended by Comcast.

17 269. Comcast provides no software, support, or other facility to customers to
18 modify any aspect of the functioning described in the claim chart of the Accused Cable
19 Modem Products while deployed to customer premises.

20 270. Comcast directly infringes at least Claims 1-5 and 9 of the '682 Patent by
21 using, importing, selling, and/or offering for sale the Accused Services, which utilize
22 cable modem termination systems and/or converged cable access platforms that
23 communicate with the Accused Cable Modem Products (for example, the Technicolor
24 CGM4140 cable modem).

25 271. The use of the Accused Services by Comcast to, for example, demonstrate
26 products in brick-and-mortar stores at 685 East Betteravia Rd., Santa Maria, California,
27 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436, or to, for example,
28

1 test those products, constitute acts of direct infringement of at least Claims 1-5 and 9 of
2 the '682 Patent.

3 272. Comcast has known of or has been willfully blind to the '682 Patent no
4 later than the day before [REDACTED]

5 273. Comcast has known of or has been willfully blind to the '682 Patent since
6 before the August 9, 2022 communication from Entropic.

7 274. Comcast has been aware that it infringes the '682 Patent since well before,
8 and no later than the date of, its receipt of Entropic's August 9, 2022 communication,
9 attached as Exhibit 17. Since obtaining knowledge of the '682 Patent and its infringing
10 activities, Comcast has failed to cease its infringing activities.

11 275. Comcast's infringement of the '682 Patent is, has been, and continues to
12 be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights
13 under the patent.

14 276. Entropic has been damaged as a result of the infringing conduct alleged
15 above. Comcast is liable to Entropic in an amount that compensates Entropic for
16 Comcast's infringement, which by law cannot be less than a reasonable royalty, together
17 with interest and costs as fixed by this Court under 35 U.S.C. § 284.

18 277. No apparatus claims of the '682 Patent are presently asserted. Accordingly,
19 there is no duty to mark pursuant to 35 U.S.C. § 287.

20 **COUNT VII**

21 **(Infringement of the '866 Patent)**

22 278. Entropic incorporates by reference each allegation of the paragraphs above
23 as if fully set forth herein.

24 279. Entropic served infringement contentions which included a claim chart for
25 the '866 Patent on September 15, 2023.

26 280. The '866 Patent duly issued on July 5, 2022 from an application filed
27 January 28, 2022, an application filed March 30, 2021, an application filed June 4, 2019,
28 an application filed October 24, 2017, an application filed November 23, 2015, an

1 application filed February 10, 2015, an application filed August 8, 2013, an application
2 filed April 19, 2010, and, *inter alia* a provisional application filed April 17, 2009.

3 281. Entropic owns all substantial rights, interest, and title in and to the '866
4 Patent, including the sole and exclusive right to prosecute this action and enforce the
5 '866 Patent against infringers and to collect damages for all relevant times.

6 282. The '866 Patent generally describes a cable television device that digitizes
7 an entire input signal, concurrently selects a plurality of desired channels from the
8 digitized input signal without selecting any undesired channels, and provides the
9 plurality of desired channels. A true and accurate copy of the '866 Patent is attached
10 hereto as Exhibit 13.

11 283. The '866 Patent is directed to patent-eligible subject matter pursuant to 35
12 U.S.C. § 101.

13 284. The '866 Patent is valid and enforceable, and presumed as such, pursuant
14 to 35 U.S.C. § 282.

15 285. Comcast deploys one or more of the Accused Set Top Products in
16 connection with operating and providing the Accused Services.

17 286. The Accused Set Top Products deployed by Comcast to customer premises
18 remain the property of Comcast while deployed.

19 287. The Accused Set Top Products operate while deployed in a manner
20 controlled and intended by Comcast.

21 288. As set forth in the attached nonlimiting claim chart (Exhibit 14), Comcast
22 has directly infringed and is infringing at least Claims 27, 28, 33, 36, 37, 41, 42, 47, 50,
23 and 51 of the '866 Patent by using, importing, selling, and/or offering for sale the
24 Accused Set Top Products and/or the Accused Services.

25 289. Each aspect of the functioning of the Accused Set Top Products described
26 in the claim chart operates while deployed to customer premises in a manner controlled
27 and intended by Comcast.

1 290. Comcast provides no software, support, or other facility to customers to
2 modify any aspect of the functioning described in the claim chart of the Accused Set
3 Top Products while deployed to customer premises.

4 291. Comcast directly infringes at least Claims 27, 28, 33, 36, 37, 41, 42, 47,
5 50, and 51 of the '866 Patent by using, importing, selling, and/or offering for sale the
6 Accused Set Top Products (for example, the Arris AX013ANM STB) and/or the
7 Accused Services (for example, digitizing and selecting desired television channels
8 from an input signal).

9 292. The use of the Accused Set Top Products by Comcast to, for example,
10 demonstrate products in brick-and-mortar stores at 685 East Betteravia Rd., Santa
11 Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436, or
12 to, for example, test those products, constitute acts of direct infringement of at least
13 Claims 27, 28, 33, 36, 37, 41, 42, 47, 50, and 51 of the '866 Patent.

14 293. Comcast has known of or has been willfully blind to the '362 family, of
15 which the '866 Patent is a member, no later than the day before [REDACTED]
16 [REDACTED]

17 294. Comcast has known of or has been willfully blind to the '866 Patent since
18 before the August 9, 2022 communication from Entropic.

19 295. Comcast has been aware that it infringes the '866 Patent since well before,
20 and no later than the date of, its receipt of Entropic's August 9, 2022 communication,
21 attached as Exhibit 17. Since obtaining knowledge of the '866 Patent and its infringing
22 activities, Comcast has failed to cease its infringing activities.

23 296. Customers and subscribers of Comcast infringe at least Claims 27, 28, 33,
24 36, 37, 41, 42, 47, 50, and 51 of the '866 Patent by using the claimed system, at least
25 during the use of the Accused Set Top Products.

26 297. Comcast actively induces customers' direct infringement. For example,
27 Comcast actively induces infringement of at least Claims 27, 28, 33, 36, 37, 41, 42, 47,
28 50, and 51 of the '866 Patent by providing the Accused Set Top Products to Comcast

1 customers with specific instructions and/or assistance (including installation) regarding
2 the use of the Accused Set Top Products to infringe the '866 Patent in accordance with
3 the ordinary course of operation through the provision of the Accused Services. For at
4 least the above-listed reasons, Comcast aids, instructs, supports, and otherwise acts with
5 the intent to cause an end user to use the Accused Set Top Products to infringe at least
6 Claims 27, 28, 33, 36, 37, 41, 42, 47, 50, and 51 of the '866 Patent.

7 298. Comcast contributes to the customers' direct infringement. Comcast
8 provides apparatuses, namely the Accused Set Top Products, that are used by customers
9 to directly infringe at least Claims 27, 28, 33, 36, 37, 41, 42, 47, 50, and 51 of the '866
10 Patent.

11 299. The Accused Set Top Products have no substantial noninfringing uses.
12 When an end user uses the Accused Set Top Products to receive the Accused Services,
13 the end user directly infringes at least Claims 27, 28, 33, 36, 37, 41, 42, 47, 50, and 51
14 of the '866 Patent. The Accused Set Top Products are especially made or especially
15 adapted for use in an infringing manner.

16 300. Comcast's inducement of, and contribution to, the direct infringement of
17 at least Claims 27, 28, 33, 36, 37, 41, 42, 47, 50, and 51 of the '866 Patent is continuous
18 and ongoing through acts such as providing the Accused Set Top Products to Comcast
19 customers, which enables those customers to receive the Accused Services; Comcast's
20 provision of the Accused Services; and technical assistance provided by Comcast for
21 equipment it provides to its customers in support of the provision of the Accused
22 Services.

23 301. Comcast's infringement of the '866 Patent is, has been, and continues to
24 be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights
25 under the patent.

26 302. Entropic has been damaged as a result of the infringing conduct alleged
27 above. Comcast is liable to Entropic in an amount that compensates Entropic for
28

1 Comcast's infringement, which by law cannot be less than a reasonable royalty, together
2 with interest and costs as fixed by this Court under 35 U.S.C. § 284.

3 303. Entropic is aware of no obligation to mark any instrumentality with the
4 '866 Patent in accordance with 35 U.S.C. § 287.

5 **COUNT VIII**

6 **(Infringement of the '206 Patent)**

7 304. Entropic incorporates by reference each allegation of the paragraphs above
8 as if fully set forth herein.

9 305. Entropic served infringement contentions which included a claim chart for
10 the '206 Patent on September 15, 2023.

11 306. The '206 Patent duly issued on July 26, 2022 from an application filed
12 January 28, 2022, an application filed March 30, 2021, an application filed June 4, 2019,
13 an application filed October 24, 2017, an application filed November 23, 2015, an
14 application filed February 10, 2015, an application filed August 8, 2013, an application
15 filed April 19, 2010, and, *inter alia* a provisional application filed April 17, 2009.

16 307. Entropic owns all substantial rights, interest, and title in and to the '206
17 Patent, including the sole and exclusive right to prosecute this action and enforce the
18 '206 Patent against infringers and to collect damages for all relevant times.

19 308. The '206 Patent generally describes receiving an input signal from a cable
20 network, digitizing the entire input signal, selecting a plurality of desired channels from
21 the digitized input signal without selecting any undesired channels, and providing the
22 plurality of desired channels. A true and accurate copy of the '206 Patent is attached
23 hereto as Exhibit 15.

24 309. The '206 Patent is directed to patent-eligible subject matter pursuant to 35
25 U.S.C. § 101.

26 310. The '206 Patent is valid and enforceable, and presumed as such, pursuant
27 to 35 U.S.C. § 282.

1 311. Comcast deploys one or more of the Accused Cable Modem Products and
2 Accused Set Top Products in connection with operating and providing the Accused
3 Services.

4 312. The Accused Cable Modem Products and Accused Set Top Products
5 deployed by Comcast to customer premises remain the property of Comcast while
6 deployed.

7 313. The Accused Cable Modem Products and Accused Set Top Products
8 operate while deployed in a manner controlled and intended by Comcast.

9 314. As set forth in the attached nonlimiting claim chart (Exhibit 16), Comcast
10 has directly infringed and is infringing at least Claims 13, 14, 19, 21, 23, 25, 26, 31, 34,
11 35, 38, 39, 44, 47, and 48 of the '206 Patent by using, selling, and/or offering for sale
12 the Accused Services through the Accused Cable Modem Products and Accused Set
13 Top Products.

14 315. Each aspect of the functioning of the Accused Cable Modem Products and
15 Accused Set Top Products described in the claim chart operates while deployed to
16 customer premises in a manner controlled and intended by Comcast.

17 316. Comcast provides no software, support, or other facility to customers to
18 modify any aspect of the functioning described in the claim chart of the Accused Cable
19 Modem Products and Accused Set Top Products while deployed to customer premises.

20 317. Comcast directly infringes at least Claims 13, 14, 19, 21, 23, 25, 26, 31,
21 34, 35, 38, 39, 44, 47, and 48 of the '206 Patent by using, importing, selling, and/or
22 offering for sale the Accused Cable Modem Products (for example, the Technicolor
23 CGM4140 cable modem), Accused Set Top Products (for example, the Arris
24 AX013ANM STB), and/or the Accused Services (for example, digitizing and selecting
25 desired channels from an input signal).

26 318. The use of the Accused Services through the Accused Cable Modem
27 Products and Accused Set Top Products by Comcast to, for example, demonstrate
28 products in brick-and-mortar stores at 685 East Betteravia Rd., Santa Maria, California,

1 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436, or to, for example,
2 test those products, constitute acts of direct infringement of at least Claims 13, 14, 19,
3 21, 23, 25, 26, 31, 34, 35, 38, 39, 44, 47, and 48 of the '206 Patent.

4 319. Customers and subscribers of Comcast infringe at least Claims 13, 14, 19,
5 21, 23, 25, 26, 31, 34, 35, 38, 39, 44, 47, and 48 of the '206 Patent by using the claimed
6 method, at least during receipt of the Accused Services utilizing, for example, the
7 Accused Cable Modem Products and Accused Set Top Products (for example, the
8 Technicolor CGM4140 cable modem).

9 320. The Accused Cable Modem Products and Accused Set Top Products have
10 no substantial noninfringing uses. When an end user uses the Accused Cable Modem
11 Products and Accused Set Top Products to receive the Accused Services, the end user
12 directly infringes at least Claims 13, 14, 19, 21, 23, 25, 26, 31, 34, 35, 38, 39, 44, 47,
13 and 48 of the '206 Patent. The Accused Cable Modem Products and Accused Set Top
14 Products are especially made or especially adapted for use in an infringing manner.

15 321. Entropic has been damaged as a result of the infringing conduct alleged
16 above. Comcast is liable to Entropic in an amount that compensates Entropic for
17 Comcast's infringement, which by law cannot be less than a reasonable royalty, together
18 with interest and costs as fixed by this Court under 35 U.S.C. § 284.

19 322. No apparatus claims of the '206 Patent are presently asserted. Accordingly,
20 there is no duty to mark pursuant to 35 U.S.C. § 287.

21 323. Comcast has known of or has been willfully blind to the '362 family, of
22 which the '206 Patent is a member, no later than the day before signing the [REDACTED]
23 [REDACTED]

24 324. Since obtaining knowledge of the '362 family, of which the '206 Patent is
25 a member, and its infringing activities, Comcast has failed to cease its infringing
26 activities.

1 325. Comcast's infringement of the '206 Patent is, has been, and continues to
2 be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights
3 under the patent.

4 **COUNT IX**

5 **(Infringement of the '275 Patent)**

6 326. Entropic incorporates by reference each allegation of the paragraphs above
7 as if fully set forth herein.

8 327. Entropic served an infringement contention claim chart for the '275 Patent
9 on November 3, 2023.

10 328. The '275 Patent duly issued on October 10, 2023 from an application filed
11 September 30, 2022, an application filed July 12, 2022, an application filed January 28,
12 2022, an application filed March 30, 2021, an application filed June 4, 2019, an
13 application filed October 24, 2017, an application filed November 23, 2015, an
14 application filed February 10, 2015, an application filed August 8, 2013, an application
15 filed April 19, 2010, and, *inter alia* a provisional application filed April 17, 2009.

16 329. Entropic owns all substantial rights, interest, and title in and to the '275
17 Patent, including the sole and exclusive right to prosecute this action and enforce the
18 '275 Patent against infringers and to collect damages for all relevant times.

19 330. The '275 Patent generally describes a wideband receiver system that
20 digitizes an input signal, selects desired channels from the digitized signal, and outputs
21 the selected desired channels for demodulation. A true and accurate copy of the '275
22 Patent is attached hereto as Exhibit 18.

23 331. The '275 Patent is directed to patent-eligible subject matter pursuant to 35
24 U.S.C. § 101.

25 332. The '275 Patent is valid and enforceable, and presumed as such, pursuant
26 to 35 U.S.C. § 282.

27 333. Comcast deploys one or more of the Accused Set Top Products in
28 connection with operating and providing the Accused Services.

1 334. The Accused Set Top Products deployed by Comcast to customer premises
2 remain the property of Comcast while deployed.

3 335. The Accused Set Top Products operate while deployed in a manner
4 controlled and intended by Comcast.

5 336. As set forth in the attached nonlimiting claim chart (Exhibit 19), Comcast
6 has directly infringed and is infringing at least Claims 1, 2, 5, 7, 8, 10-12, 15, 17, 18,
7 and 20 of the '275 Patent by using, selling, and/or offering for sale the Accused Services
8 through the Accused Set Top Products.

9 337. Each aspect of the functioning of the Accused Set Top Products described
10 in the claim chart operates while deployed to customer premises in a manner controlled
11 and intended by Comcast.

12 338. Comcast provides no software, support, or other facility to customers to
13 modify any aspect of the functioning described in the claim chart of the Accused Set
14 Top Products while deployed to customer premises.

15 339. Comcast directly infringes at least Claims 1, 2, 5, 7, 8, 10-12, 15, 17, 18,
16 and 20 of the '275 Patent by using, importing, selling, and/or offering for sale the
17 Accused Set Top Products (for example, the Arris AX013ANM STB) and/or the
18 Accused Services (for example, digitizing and selecting desired channels from an input
19 signal).

20 340. The use of the Accused Services through the Accused Set Top Products by
21 Comcast to, for example, demonstrate products in brick-and-mortar stores at 685 East
22 Betteravia Rd., Santa Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc,
23 California 93436, or to, for example, test those products, constitute acts of direct
24 infringement of at least Claims 1, 2, 5, 7, 8, 10-12, 15, 17, 18, and 20 of the '275 Patent.

25 341. Customers and subscribers of Comcast infringe at least Claims 1, 2, 5, 7,
26 8, 10-12, 15, 17, 18, and 20 of the '275 Patent by using the claimed method, at least
27 during receipt of the Accused Services utilizing, for example, the Accused Set Top
28 Products.

1 342. The Accused Set Top Products have no substantial noninfringing uses.
2 When an end user uses the Accused Set Top Products to receive the Accused Services,
3 the end user directly infringes at least Claims 1, 2, 5, 7, 8, 10-12, 15, 17, 18, and 20 of
4 the '275 Patent. The Accused Set Top Products are especially made or especially
5 adapted for use in an infringing manner.

6 343. Entropic has been damaged as a result of the infringing conduct alleged
7 above. Comcast is liable to Entropic in an amount that compensates Entropic for
8 Comcast's infringement, which by law cannot be less than a reasonable royalty, together
9 with interest and costs as fixed by this Court under 35 U.S.C. § 284.

10 344. Comcast has known of or has been willfully blind to the '362 family, of
11 which the '275 Patent is a member, no later than the day before signing the [REDACTED]
12 [REDACTED]

13 345. Since obtaining knowledge of the '362 family, of which the '275 Patent is
14 a member, and its infringing activities, Comcast has failed to cease its infringing
15 activities.

16 346. Comcast has known of or has been willfully blind to the '275 Patent since
17 at least November 3, 2023, when Entropic served Comcast its infringement contention
18 claim charts.

19 347. Comcast has been aware that it infringes the '275 Patent since well before,
20 and no later than the date of, its receipt of Entropic's infringement contention claim
21 charts served on November 3, 2023. Since obtaining knowledge of the '275 Patent and
22 its infringing activities, Comcast has failed to cease its infringing activities.

23 348. Comcast's infringement of the '275 Patent is, has been, and continues to
24 be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights
25 under the patent.

26 349. Entropic is aware of no obligation to mark any instrumentality with the
27 '275 Patent in accordance with 35 U.S.C. § 287.
28

COUNT X

(Infringement of the '438 Patent)

350. Entropic incorporates by reference each allegation of Paragraphs 1 through 349.

351. Entropic served an infringement contention claim chart for the '438 Patent on November 3, 2023.

352. The '438 Patent duly issued on January 9, 2018, from an application filed February 16, 2017, an application filed August 4, 2016, an application filed July 23, 2013, and, *inter alia* a provisional application filed July 23, 2012.

353. Entropic owns all substantial rights, interest, and title in and to the '438 Patent, including the sole and exclusive right to prosecute this action and enforce the '438 Patent against infringers and to collect damages for all relevant times.

354. The '438 Patent generally describes a mechanism for determining communication parameters for communications between a cable modem termination system and cable modems. A true and accurate copy of the '438 Patent is attached hereto as Exhibit 20.

355. The '438 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

356. The '438 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

357. Comcast deploys one or more of the Accused Cable Modem Products and Accused Set Top Products in connection with operating and providing the Accused Services.

358. The Accused Cable Modem Products and Accused Set Top Products deployed by Comcast to customer premises remain the property of Comcast while deployed.

359. The Accused Cable Modem Products operate while deployed in a manner controlled and intended by Comcast.

1 360. As set forth in the attached nonlimiting claim chart (Exhibit 21), Comcast
2 has directly infringed and is infringing at least Claims 1-5 and 9 of the '438 Patent, by
3 using, importing, selling, and/or offering for sale the Accused Services.

4 361. Each aspect of the functioning of the Accused Cable Modem Products and
5 Accused Set Top Products described in the claim chart operates while deployed to
6 customer premises in a manner controlled and intended by Comcast.

7 362. Comcast provides no software, support, or other facility to customers to
8 modify any aspect of the functioning described in the claim chart of the Accused Cable
9 Modem Products and Accused Set Top Products while deployed to customer premises.

10 363. Comcast directly infringes at least Claims 1-5 and 9 of the '438 Patent by
11 using, importing, selling, and/or offering for sale the Accused Services, which utilize
12 cable modem termination systems and/or converged cable access platforms that
13 communicate with the Accused Cable Modem Products and Accused Set Top Products
14 (for example, the Technicolor CGM4140 cable modem).

15 364. The use of the Accused Services by Comcast to, for example, demonstrate
16 products in brick-and-mortar stores at 685 East Betteravia Rd., Santa Maria, California,
17 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436, or to, for example,
18 test those products, constitute acts of direct infringement of at least Claims 1-5 and 9 of
19 the '438 Patent.

20 365. Comcast has known of or has been willfully blind to the '682 family, of
21 which the '438 Patent is a member, no later than the day before signing the [REDACTED]
22 [REDACTED]

23 366. Since obtaining knowledge of the '682 family, of which the '438 Patent is
24 a member, and its infringing activities, Comcast has failed to cease its infringing
25 activities.

26 367. Comcast has been aware that it infringes the '438 Patent since well before,
27 and no later than the date of, its receipt of Entropic's infringement contention claim
28

1 charts served on November 3, 2023. Since obtaining knowledge of the '438 Patent and
2 its infringing activities, Comcast has failed to cease its infringing activities.

3 368. Comcast's infringement of the '438 Patent is, has been, and continues to
4 be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights
5 under the patent.

6 369. Entropic has been damaged as a result of the infringing conduct alleged
7 above. Comcast is liable to Entropic in an amount that compensates Entropic for
8 Comcast's infringement, which by law cannot be less than a reasonable royalty, together
9 with interest and costs as fixed by this Court under 35 U.S.C. § 284.

10 370. No apparatus claims of the '438 Patent are presently asserted. Accordingly,
11 there is no duty to mark pursuant to 35 U.S.C. § 287.

12 **PRAYER FOR RELIEF**

13 WHEREFORE, Entropic requests that:

14 A. The Court find that Comcast has directly infringed the Patents-in-Suit and
15 hold Comcast liable for such infringement;

16 B. The Court find that Comcast has indirectly infringed the Patents-in-Suit by
17 inducing its customers to directly infringe the Patents-in-Suit and hold Comcast liable
18 for such infringement;

19 C. The Court find that Comcast has indirectly infringed the Patents-in-Suit by
20 contributing to its customers' direct infringement of the Patents-in-Suit and hold
21 Comcast liable for such infringement;

22 D. The Court award damages pursuant to 35 U.S.C. § 284 adequate to
23 compensate Entropic for Comcast's past infringement of the Patents-in-Suit, including
24 both pre- and post-judgment interest and costs as fixed by the Court;

25 E. The Court find that Comcast willfully infringed the Patents-in-Suit, and
26 increase the damages to be awarded to Entropic by three times the amount found by the
27 jury or assessed by the Court;

1 F. The Court declare that this is an exceptional case entitling Entropic to its
2 reasonable attorneys' fees under 35 U.S.C. § 285; and

3 G. The Court award such other relief as the Court may deem just and proper.

4
5 **JURY TRIAL DEMANDED**

6 Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Entropic hereby
7 requests a trial by jury on all issues raised by this Complaint.

8 Dated: November 13, 2023

Respectfully submitted,

9
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